Ocean Margin Drilling

May 1980

NTIS order #PB80-198302

OCEAN MARGIN DRILLING

A TECHNICAL MEMORANDUM

MAKE DR



Library of Congress Catalog Card Number 80-600083

For sale by the Superintendent of Documents, U.S. Government Printing Office Washington, D.C. 20402 Stock No. 052-003-00754-1

This Technical Memorandum was prepared in response to a request from the Chairman and the Ranking Minority Member of the HUD-Independent Agencies Subcommittee of the Senate Appropriations Committee. The Committee requested that OTA conduct an evaluation of the Ocean Margin Drilling Program, a major new public-private cooperative research effort in marine geology proposed by the National Science Foundation. They were particularly interested in the scientific merits of the program and whether other, less costly alternatives could yield the same or greater scientific return.

Because OTA already had a more general ongoing study of ocean research technology, the agency was able to respond quickly to this request. The Memorandum was prepared with the advice and assistance of a small panel of scientists plus a much broader group of scientists, engineers, petroleum company representatives, and others who submitted material for our use and reviewed our draft report. The study discusses the scientific merit of the program, possible alternatives to the present program plan, problems associated with technology development, aspects of petroleum company participation in the program, and government management considerations. There are also appendices including specific alternatives proposed by the OTA panel members and historical factors leading to the present plans.

JOHN H. GIBBONS

Director

Review of the Ocean Margin Drilling Program

Robert Niblock, Ocean Program Manager

Peter A. Johnson, Project Director

Prudence S. Adler Kathleen Beil Carolyn Gilmore

Consultants

John Andelin Denzil Pauli Robert Taggart

Advisory Panel for Review of the Ocean Margin Drilling Program

Dr. Joseph Curray Scripps Institution of Oceanography University of California La Jolla, California 92039

Dr. Charles Drake Dean of Graduate Studies Dartmouth College Hanover, New Hampshire 03755

Dr. James Hays
Professor of Geology
Lamont-Doherty Geological Observatory of
Columbia University
Palisades, New York 10964

Dr. John Imbrie Department of Geological Sciences Brown University Providence, Rhode Island 02912 Mr. Feenan Jennings Director, Sea Grant Program Texas A & M University College Station, Texas 77843

Dr. John Sclater Department of Earth and Planetary Sciences Massachusetts Institute of Technology Cambridge, Massachusetts 02139

Dr. Tjeerd H. van Andel Geology Department Stanford University Stanford, California 94305

ACKNOWLEDGEMENTS

The staff wishes to acknowledge the help and cooperation of the following groups and individuals during the preparation and review of this study:

Dr. Albert Bally Shell Oil Company

Dr. Kevin Burke State University of New York at Albany

Mr. Joseph Carter Gulf Oil Company

Mr. John H. Clotworthy Joint Oceanographic Institutions Inc.

Dr. Edgar S. Driver
Gulf Research & Development Company

Dr. Howard Ellinwood Standard Oil of California

Mr. John I. Ewing Woods Hole Oceanographic Institution

Dr. Terry N. Gardner
Exxon Production Research Company

Dr. Glen Hager Continental Oil Company

Dr. William Hay Joint Oceanographic Institutions Inc.

Dr. Hollis Hedberg Princeton University

Dr. Claude Hocott Gulf Universities Research Consortium

Dr. Charles D. Hollister Woods Hole Oceanographic Institution

Dr. Doyle Marrs Mobil Oil Corporation Dr. Arthur E. Maxwell Woods Hole Oceanographic Institution

Dr. Donald McIvor Exxon Corporation

Dr. H. William Menard U.S. Geological Survey

Dr. Theodore C. Moore, Jr. University of Rhode Island

Dr. George B. Pichel Union Oil of California

Dr. Allan Riley Standard Oil of California

Mr. Wilbur G. Sherwood National Science Foundation

Dr. William H. Silcox Standard Oil of California

Mr. W. H. Smith
Phillips Petroleum Company

Dr. Walt W. Steiner Atlantic Richfield Company

Mr. James Thompson Sunmark Exploration Company

Dr. Peter Vail
Exxon Production Research Company

Dr. Peter Wilkness National Science Foundation

Dr. Edward L. Winterer Scripps Institution of Oceanography